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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jurgen Osterlanger

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EXAMINER

JOHNSON, MATTHEW A

ART UNIT

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3656

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DELIVERY MODE

12/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,979	Applicant(s) OSTERLANGER ET AL.	
	Examiner MATTHEW JOHNSON	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 12/9/2008 for Continued Examination (RCE) is accepted and a RCE has been established. An action on the RCE follows.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 9/12/2002. It is noted, however, that applicant has not filed a certified copy of the 10242297.4 application as required by 35 U.S.C. 119(b).

Note: While a copy of the PCT application has been received, a certified copy of the foreign priority document is missing from the file.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" "**comprising**" "**wherein**" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

4. Claim 1 is objected to because of the following informalities: the limitation, "wherein the two partial deflecting pieces are formed integrally in the unassembled state" in line 20 appears to be repeat that which has been previously claimed in lines 14-15. Additionally, the limitation, "before assembly point-symmetrically in a sectional plane arranged transversely to the parting plane, the point symmetry being defined with respect to a point of symmetry lying in the parting plane" is grammatically awkward and somewhat confusing. The examiner suggests rephrasing the limitation to read similar to the first paragraph on page 10 of the original specification.
5. Claim 3 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of claim 3 does not appear to further limit claim 1. As shown in Figures (1, 5 and 6) the partial deflecting pieces are integrally connected in the unassembled state by the film hinge 15. Page 4, paragraph 3 of the specification describes the term "captively" as being connected by the film hinge.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 5-7 and 10-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusasco (USP-5,005,436) in view of Konz (USP-6,437,678).

Re clms 1, 3 and 11: Brusasco discloses a ball screw comprising:

- A spindle (2)
- A first thread groove (3) on the spindle
- A spindle nut (5) arranged on the spindle, a second thread groove (6) formed in the spindle nut, the first thread groove (3) and the second thread groove (6) being shaped and positioned to together form a thread path (8)
- Balls (7) arranged to roll in the thread path (C3 L12-18)
- A receptacle (10) in the spindle nut and opening to the spindle
- At least one deflecting piece (12) arranged in the receptacle of the spindle nut, the deflecting piece including a deflecting channel (9) shaped and directed for returning the balls (7) in the thread path from a run-out end and a run-in end (C3 L17) of at least one common turn of the thread path
- The deflecting piece (18) comprising two partial deflecting pieces (Fig. 5) including a first partial deflecting piece (18 on left, Fig. 5) and a second

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deflecting piece (18 on right, Fig. 5) divided from the first partial deflecting piece by a parting plane (17, Fig. 3),

- The deflecting piece (12) comprising a base (15) and two spaced apart side plates (near numeral 18, Fig 3) attached to the base, one of the side plates being formed on the first partial deflecting piece and the other of the side plates being formed on the second partial deflecting piece, the base and the two spaced apart side plates bounding the deflecting channel (9).
- Wherein the two partial deflecting pieces are formed point-symmetrically in a sectional plane arranged transversely to the parting plane, the point symmetry being defined with respect to a point of symmetry lying in the parting plane (see Figs. 5, 13-15)

Brusasco does not disclose the first partial deflecting piece, in an unassembled state before assembly of the ball screw, being formed integrally\captively connected with the second partial deflecting piece, and the two partial deflecting pieces are connected by a film hinge.

Konz teaches two symmetrical partial pieces (16, 17; C6 L23-26) separated by a parting plane (Figs. 1, 2, 5 and 6) and formed integrally\captively connected (C4 L55-58) in an unassembled state and connected by a film hinge (24) for the purpose of keeping the parts properly oriented and aligned thus facilitating assembly (C6 L26-28).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the device of Brusasco such that the first partial deflecting piece, in an unassembled state before assembly of the ball screw, is

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formed integrally\captively connected with the second partial deflecting piece, and the two partial deflecting pieces are connected by a film hinge, as taught by Konz, for the purpose of keeping the parts properly oriented and aligned thus facilitating assembly (C6 L26-28).

Re clm 5: Brusasco discloses each of the side plates comprising a blade (24, 25) configured to engage between at least one of the balls (7) and the first thread groove (3) of the spindle (2), the blade positioned at a free end of the side plate and face the thread groove of the spindle (Fig. 3).

Re clm 6: Brusasco discloses there is a clearance distance between two free ends (between 24 and 25) of the side plates that is less than a ball diameter the balls (Fig. 12).

Re clm 7: Brusasco discloses the deflecting piece (12) comprises ball guiding surfaces (26, 28) configured to lift the balls (7) off the first thread groove (3) of the spindle (C3 L53-62).

Re clm 10: Brusasco discloses that it is known in the art to form the deflecting pieces of thermoplastic material (C1 L52-53). The examiner notes that the phrase “and is produced by an injection-molded process” is a product-by-process limitation. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production (see MPEP 2113).

Re clm 12: Brusasco discloses the first partial deflecting piece (18) and the second partial deflecting piece (18) are shaped such that the parting plane (17) divides

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the deflecting channel along a lengthwise direction of the first partial deflecting piece and the second partial deflecting piece (Figs. 3 and 5).

8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusasco (USP-5,005,436) in view of Konz (USP-6,437,678) further in view of Greubel (USP-6,425,302).

Re clms 8 and 9: Brusasco in view of Konz discloses all of the limitations of claim 1 as described above. While Brusasco does indeed disclose each of the partial deflecting pieces (18) include a pin (20) at one circumferential end and a pin receptacle (21) provided at an opposite, other circumferential end that grip one another (Fig. 6), Brusasco does not disclose a hook and hook receptacle.

Greubel teaches two partial deflecting pieces (52, 54) connected by a hook (66) and a hook receptacle (62) for the purpose of providing a more secure locking arrangement between the partial deflecting pieces.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the device of Brusasco in view of Konz, to have a hook that hooks into a hook receptacle, as taught by Greubel, for the purpose of providing a more secure locking arrangement between the partial deflecting pieces.

Response to Arguments

9. Applicant's arguments filed 12/9/2008 have been fully considered but they are not persuasive. Applicant argues that Brusasco does not disclose a ball screw comprising a first partial deflecting piece and a second partial deflecting piece divided

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from the first partial deflecting piece because in the assembled state, the partial deflecting pieces form one integral part. As described above and shown in Figures 5 and 13-15 of Brusasco, in the unassembled state, there are clearly two partial deflecting pieces. The limitation regarding the two pieces integrally connected in an unassembled state, this limitation is taught by Konz as described above.

10. Regarding the combination of Brusasco and Konz, Applicant argues that the combination does not disclose a ball screw with a deflecting piece that includes the deflecting channel, and two partial deflecting pieces that together bound the deflecting channel of the ballscrew, the two partial deflecting pieces formed point-symmetrically in a sectional plane arranged transversely to the parting plane. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). All the limitations regarding the ball screw and the deflecting channel are disclosed by Brusasco. Konz teaches integrally connecting two symmetrically formed pieces together in the unassembled state for the purpose of keeping the parts properly oriented and aligned thus facilitating assembly.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW JOHNSON whose telephone number is (571)272-7944. The examiner can normally be reached on Monday - Friday 9:00a.m. - 5:30p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew Johnson/
Examiner, Art Unit 3656

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656